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**BRITISH COLUMBIA
UTILITIES COMMISSION**

**ORDER
NUMBER** G-150-09

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**IN THE MATTER OF
the Utilities Commission Act, R.S.B.C. 1996, Chapter 473**

and

**An Application by British Columbia Hydro and Power Authority
for Reconsideration of Order G-91-09 in the 2008 Long-Term Acquisition Plan**

BEFORE: A.J. Pullman, Panel Chair
R.J. Milbourne, Commissioner December 3, 2009
M.R. Harle, Commissioner

O R D E R

WHEREAS:

- A. British Columbia Hydro and Power Authority ("BC Hydro") filed on June 12, 2008, pursuant to subsections 44.1(2), 44.1(4) and 44.2(1) of the *Utilities Commission Act* (the "Act"), the 2008 Long-Term Acquisition Plan ("2008 LTAP, the "Application") with the British Columbia Utilities Commission (the "Commission") for review; and
- B. The 2008 LTAP is a long-term resource plan for acquiring demand-side and supply-side resources to meet demand in British Columbia. The 2008 LTAP both updates and expands the 2006 Integrated Electricity Plan/Long Term Acquisition Plan, which was the subject of Order G-20-07 ("2006 IEP/LTAP Decision"); and
- C. The 2008 LTAP reflects BC Hydro's commitment to examine the effects of the British Columbia government's updated energy policy, "The BC Energy Plan: A Vision for Clean Energy Leadership" and the relevant issues in the 2006 IEP/LTAP Decision; and
- D. The Oral Hearing commenced on February 19, 2009 and ended on March 12, 2009. BC Hydro filed its Argument on April 9, 2009; Intervenors filed their Arguments on April 27, 2009; and BC Hydro filed its Reply on May 13, 2009. The Oral Phase of Argument took place on June 1, 2009; and
- E. By Commission Orders G-69-09 and G-75-09, dated respectively June 9, 2009 and June 15, 2009, the Commission determined that the Application's expenditures requests regarding Mica Units 5 and 6 and Fort Nelson Generating Station Upgrade Project were in the public interest; and
- F. On July 27, 2009, the Commission issued its 2008 LTAP Decision ("Decision") on the balance of the Application concurrently with Order G-91-09. Paragraph 7 of Order G-91-09 directed BC Hydro to comply with all other directives in the Decision; and
- G. By application made pursuant to section 99 of the Act and dated October 7, 2009, BC Hydro sought a reconsideration and variance of condition [paragraph] 7 of Order G-91-09, which directs BC Hydro to comply with the directives in the Decision (Exhibit B-1, "Reconsideration Application"); and

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- H. BC Hydro seeks an order that varies Order G-91-09 as follows: (1) varying Directive 32 to provide that the filing date of the next LTAP is to be no later than June 30, 2011; (2) varying Directive 45 to confirm that Voltage Optimization ("VO") programs are Demand Side Management ("DSM") initiatives; and (3) finding that the 400 megawatts ("MW") of market reliance cannot be relied on by BC Hydro for planning purposes after 2015 as a result of Special Direction No. 10 to the Commission; and
- H. On October 13, 2009, the Commission issued Letter L-92-09 (Exhibit A-1). In Letter L-92-09, the Commission determined that the Reconsideration Application should proceed directly to Phase 2 of the reconsideration process and established that Intervenor submissions should be filed by October 27, 2009 and BC Hydro should file its reply submission by November 4, 2009; and
- I. Eleven intervenors filed submissions: British Columbia Old Age Pensioners Organization *et al.* ("BCOAPO"), British Columbia Sustainable Energy Association/Sierra Club of British Columbia ("BCSEA"), Commercial Energy Consumers of British Columbia ("CEC"), Columbia Power Corporation ("CPC"), Canadian Office and Professional Employees Union Local 378 ("COPE 378"), Energy Solutions for Vancouver Island Society/Okanagan Environmental Industry Alliance/Island Transformations.Org/Rental Owners and Managers Society of BC ("ESVI" *et al.*), Independent Power Producers Association of British Columbia ("IPPBC"), Joint Industry Electricity Steering Committee ("JIESC"), Terasen Gas Inc., Terasen Gas (Vancouver Island) Inc. and Terasen Gas Whistler Inc. ("Terasen Utilities"), Texada Action Now Community Association ("Texada"); and Vanport Sterilizers inc. ("Vanport"); and
- J. Not all eleven intervenors took a position on each of the three grounds of relief sought by BC Hydro. On the first ground of relief, namely variance of Directive 32, BCOAPO, ESVI, JIESC, IPPBC, BCSEA, CEC and CPC supported BC Hydro. COPE 378 made no comment and Vanport supported the Decision. Texada submitted that BC Hydro file an interim pro-forma LTAP. Terasen Utilities submitted that the one-year delay as claimed by BC Hydro should be less than a year and that the Commission's order should direct BC Hydro to complete the study on Electric Load Avoidance DSM; and
- K. On the second ground of relief, namely the variance of Directive 45 regarding VO programs, BCOAPO, ESVI, BCSEA and CEC supported BC Hydro while Texada, Terasen Utilities, COPE 378 and CPC, took no position. Vanport and JIESC supported the Commission's Decision and IPPBC submitted that BC Hydro was taking an excessively broad view of the term demand side measure; and
- L. On the third ground of relief, namely a finding that the 400 MW of market reliance cannot be relied on by BC Hydro for planning purposes after 2015 as a result of Special Direction No. 10 to the Commission, BCOAPO, JIESC, IPPBC, BCSEA, CEC, COPE 378 and CPC supported BC Hydro. Vanport, Texada, ESVI, Terasen Utilities took no position; and
- M. BC Hydro filed its Reply Submission (Exhibit B-2) on November 4, 2009; and
- N. The Commission has reviewed the Reconsideration Application, the intervenors' submissions and BC Hydro's Reply Submission all as set forth in the Decision attached as Appendix A to this Order.

NOW THEREFORE the Commission orders, pursuant to section 99 of the Act:

1. Directive 32 is varied to extend the filing date for BC Hydro's next LTAP to "on or before June 30, 2011";

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2. Directive 45 is varied to read: "The Commission Panel finds that a determination as to whether or not a Voltage Optimization ("VO") program should be classified as a DSM program can and should be made only on a case-specific basis. BC Hydro is encouraged to bring forward a Major Threshold Project ("MTP") application for its proposed Voltage and Var Optimization ("VVO")/VO program so that it can be appropriately reviewed and a determination made";
3. The words "and 400 MW of capacity" are to be added after "2,500 GWh/year" at page 44, Line 18 of the Decision.
4. Directive 47 is added by way of addendum to the Decision to provide that: "The Commission Panel confirms that the 400 MW market reliance cannot be relied on for planning purposes after 2015 as a result of section 3(d) of SD 10."

DATED at the City of Vancouver, in the Province of British Columbia, this 3rd day of December 2009

BY ORDER

Original signed by:

A.J. Pullman
Panel Chair

Attachment

British Columbia Hydro and Power Authority

Reconsideration of Order G-91-09 in the 2008 Long Term Acquisition Plan
Commission Decision

REASONS FOR DECISION

OVERVIEW

The Commission Panel has considered submissions from BC Hydro and the Intervenor in this process. The Commission Panel has determined that BC Hydro's two requests for variance and one request for clarification of the Decision are to be dealt with as follows:

- Directive 32 is varied to extend the filing date for BC Hydro's next LTAP to "on or before June 30, 2011";
- Directive 45 is varied to read: "The Commission Panel finds that a determination as to whether or not a Voltage Optimization ("VO") program should be classified as a DSM program can and should be made only on a case-specific basis. BC Hydro is encouraged to bring forward a Major Threshold Project ("MTP") application for its proposed Voltage and Var Optimization ("VVO") /VO Program so that it can be appropriately reviewed and a determination made";
- The words "and 400 MW of capacity" are to be added after "2,500 GWh/year " at page 44, Line 18 of the Decision; and
- Directive 47 (new) is added by way of addendum to the Decision to provide that: "The Commission Panel confirms that the 400 MW market reliance cannot be relied on for planning purposes after 2015 as a result of section 3(d) SD 10".

These matters are described in more detail in these Reasons. As well, certain requests for further variance of the Decision made by Intervenor are discussed and dealt with in the relevant sections.

BACKGROUND

The Commission issued its Decision and Order G-91-09 on July 27, 2009 (the "Decision"). By Letter and Application dated October 7, 2009 (the "Application"), BC Hydro requested reconsideration and variance of condition 7 of Order G-91-09, which directed BC Hydro to comply with all other directives in the Decision and more specifically requested a variation of Directives 32 and 45. In addition, it requested clarification on how it was to treat the 400 MW market reliance.

Pursuant to the Commission Panel's determination that Application should proceed directly to Phase 2 of the Commission's reconsideration process, Intervenor submissions were received by October 27, 2009, and BC Hydro's Reply on November 4, 2009.

Of particular relevance to the Commission Panel's consideration of BC Hydro's Application, on August 25, 2009 the Provincial Government Throne Speech spelled out, among other things, that in respect of energy policy: "The BC Utilities Commission will receive specific direction" and that "Phasing out Burrard Thermal is a critical component of B.C.'s greenhouse gas reduction strategy." The role of Burrard Thermal and BC Hydro's reliance on it for firm capacity and energy for planning purposes were central matters in the LTAP review and Decision.

In the Decision, the Commission had endorsed BC Hydro's planning reliance on Burrard Thermal for 900 MW of capacity (Directive 14), but declined to endorse BC Hydro's plan to reduce its reliance on Burrard from 6,000 GWh/year to 3000 GWh/year for firm energy (Directive 15). The Commission had suggested rather that BC Hydro investigate, and, if appropriate, reflect in its next LTAP a reliance on Burrard Thermal of 5,000 GWh/year as a cost effective approach to meeting the requirements of SD 10.

On October 28, 2009, Order in Council No. 565 with its attached Direction No. 2 to the Commission was issued. Section 3 of Direction No. 2 reads, in part:

... beginning on the date this direction comes into force, [BC Hydro] must rely on Burrard Thermal for no more than the following:

- a) 900 megawatts of capacity
- b) 0 gigawatt hours of firm energy per year.

DIRECTIVE 32 VARIANCE REQUEST

Directive 32 requires BC Hydro to file its next LTAP on or before June 30, 2010. BC Hydro seeks a variance to extend the filing date to "no later than June 30, 2011."

In support of its request, BC Hydro alleges that the Commission made errors in fact and law with respect to Directive 32 and in particular:

- There was no evidence before the Commission to support a finding of fact that a June 2010 date for the next LTAP gives BC Hydro sufficient time to consider the 2008 LTAP Decision, implement existing actions and Commission directives, undertake appropriate resource option updates and additional analysis as required, and monitor performance; and,
- The Commission failed to address relevant considerations as part of its decision, including BC Hydro's evidence that a June 2010 filing date for the next LTAP does not give BC Hydro sufficient time to consider the 2008 LTAP Decision, implement existing actions and Commission directives, undertake appropriate resource option updates and additional analyses as required, and monitor performance.

Additionally, BC Hydro referred to three fundamental changes in circumstances or facts since the Decision which it submits are relevant to the next LTAP filing date:

- 1) The B.C. Government's 2009 Throne Speech;
- 2) The evolving state of the law with respect to First Nations which may require BC Hydro to consult with First Nations prior to the next LTAP; and
- 3) New information relevant to compliance with Directive 6, which causes BC Hydro to state it is not possible to finish the double-counting analysis and reflect this analysis in the 2009 Load forecast, which forecast would be used if BC Hydro were to file the next LTAP on or before June 30, 2010.

(Exhibit B-1, pp.1-12)

Eleven Intervenor submissions were made with respect to Directive 32. Only Vanport (Exhibit C10-1) directly opposes BC Hydro's request, offering three points to conclude that the Commission "is justified in its intervention and orders with respect to both Directives 32 and 45" as follows:

- any pursuit of VO or other DSM measure is likely to have a significant material effect on BC Hydro securing 10,000 GWh of DSM by 2020;
- the "authors of the referenced UCA definition of DSM measures were negligent" in failing to address DSM in the context that any increase in efficiency in using a resource leads to more use of that resource, rather than a reduction in use ("Jevons Paradox"); and
- both BC Hydro and the Commission "failed to address the DSM issues raised in our Final Argument, as well as in our filed evidence".

All other Intervenor submissions either endorsed or did not oppose BC Hydro's request. Certain Intervenor submissions requested further variations of Directive 32 or related Directives in the Decision. These submissions, BC Hydro's reply to them, and the Commission Panel's determinations are dealt with later in this section.

In the matter of BC Hydro's request to extend the date for filing its next LTAP, BC Hydro, in its Reply, among other things, notes the overwhelming Intervenor support for its request that Directive 32 be varied. By way of example, it refers to the JIESC's submission that " 'developments since the Commission's [2008 LTAP] Decision in this matter' also make it clear 'that BC Hydro will not be able to address many important issues by June 2010' ".

In its Reply, BC Hydro also relies on Direction No. 2 to the Commission (as described above) as a further "fundamental change in circumstances or fact" arising since the Decision (Exhibit B-2, p. 4).

The Commission Panel concurs with the views that the three fundamental changes in circumstances or facts referred to in the Application together with Direction No. 2 all constitute fundamental changes in circumstances or facts since the Decision which require the Commission Panel to revisit its determination on the filing date for BC Hydro's next LTAP.

With respect to Vanport's position, BC Hydro replies that Vanport's Point 1 is simply a statement of the obvious, its Point 2 is irrelevant to the timing of BC Hydro's next LTAP, and Vanport's Point 3 was in fact addressed in BC Hydro's LTAP Final Reply Argument. The Commission Panel concurs with BC Hydro's position on the three points, and further notes that Vanport's points have little if anything to do with BC Hydro's requests for variation of Directive 32 (or of Directive 45). If Vanport takes any issue with any Commission Determination in a proceeding, as it appears to in its Point 3, it would be far more appropriate to address that concern by way of an application for reconsideration of that Decision on its own initiative.

Based on the above, and with particular regard to the submissions in respect of the developments since the issuance of the Decision, the Commission Panel accordingly varies Directive 32 and extends the filing date for BC Hydro's next LTAP to "on or before June 30, 2011."

Having made that determination, the Commission Panel finds it unnecessary to address the other submissions made by BC Hydro and the Intervenor in respect of Directive 32, except for the specific Intervenor requests for further relief or variation of Directive 32 and related Directives as follows:

Terasen Utilities

Terasen Utilities take the position that regardless of the next LTAP filing date, the 2008 LTAP Decision Directive 46 analysis regarding Electric Load Avoidance DSM ("ELA DSM"), (referred to as Fuel Switching Analysis ("FSA") by BC Hydro and others) should be done in 2010, either before or in conjunction with BC Hydro's next LTAP.

Directive 46, in part, states that "In its next LTAP Application the Commission Panel specifically requests that BC Hydro do, and present as a discrete element, the necessary analysis to establish the cost-effectiveness, or lack thereof, of DSM programs to achieve the apparent economic potential of Electric Avoidance DSM".

In the Application BC Hydro refers to Directive 46 in the context of its submission that the Commission had an insufficient evidentiary basis on which to make a determination that the analysis could be completed and included as a "discrete element" in the next LTAP to be filed by June 30, 2010. BC Hydro also makes submissions on why the analysis cannot be completed by that date, including the need for it to engage with Government, citing as a change in circumstance the 2009 Throne Speech. BC Hydro has not requested any specific variation of Directive 46 *per se*.

Among other submissions, Terasen Utilities submit that Directive 46 speaks only to a factual or economic assessment of the potential of ELA DSM, that the reference to “direction” to the Commission in the Throne Speech is in the context of Burrard Thermal – not ELA DSM - and that BC Hydro’s submission in the Application is that the analysis can be completed within 8 months. Terasen Utilities further submit that “there is value in the Commission and [I]ntervenors understanding at an early date the full extent of the favourable customer impacts associated with [ELA] DSM.” In essence, Terasen Utilities request that if BC Hydro’s requested variance of Directive 32 is granted, then Directive 46 be varied “to direct BC Hydro to complete the analysis and make it available to stakeholders by June 30, 2010.” Terasen Utilities go on to suggest that “BC Hydro should consider the results of the [analysis] to determine whether any of the [ELA] DSM programs can be implemented prior to the next LTAP in the interest of its customers” (Exhibit C9-1).

ESVI generally concurs with BC Hydro’s views with respect to the need for policy engagement in respect of FSA; BCSEA presumes that a new LTAP would, in part, include “completion of the electricity-to-natural gas fuel-switching consultation and report” (Exhibit C5-1); TAN, in the context of its request that an “interim pro-forma LTAP be filed In June 2010,” suggests that interim filing must, in part, “[a]ddress progress on [BC Hydro’s] fuel switching policy, and any interim measures introduced” (Exhibit C8-1).

In its Reply, BC Hydro amplifies its arguments that FSA requires policy engagement with the Government, and proposes to perform a staged analysis as follows:

- 1) undertake an analysis of the GHG increase in BC that would result from fuel switching from electricity to natural gas and review that analysis with Government prior to sharing it with the four customer Intervenors, Terasen Utilities, First Nations, and other interested stakeholders; and
- 2) after discussions with Government relating to the analysis, undertake the remainder of the FSA, and review those results, together with any proposed fuel switching program(s) with Government and then with the parties listed in stage 1.

BC Hydro submits that this process would add some three months to the eight month period referenced by Terasen Utilities, leading to completion of the FSA “by the latter half of 2010.” The Commission Panel agrees with BC Hydro’s conceptual approach to the FSA/ELA DSM analysis.

BC Hydro also submits that the FSA cannot be divorced from DSM Plan or LTAP. BC Hydro makes the following statements to support its view:

- assessing the impact of encouraging fuel switching on BC electricity loads would likely require scenario analysis, and stakeholder engagement;

- fuel switching initiatives would have to be thoroughly evaluated on their own merits as well as how they integrate with the balance of the initiatives in the current DSM plan; and
- a new plan including fuel switching initiatives would need to be tested through the load/resource portfolio analysis to determine that it was cost effective vis-a-vis supply-side resources.

(Exhibit B-2, pp. 14-15)

The Commission Panel agrees with BC Hydro's submissions that it is not appropriate at this time to contemplate divorcing DSM initiatives from the LTAP process, and notes that Directive 46 stipulates the ELA DSM analysis is to be filed in "the next LTAP."

Accordingly, the Commission Panel declines to amend Directive 46 as requested by Terasen.

Having made that determination, the Commission Panel finds it unnecessary to deal with BC Hydro's extensive Reply submissions as to the Commission's jurisdiction to "direct the timing of the ultimate DSM program which may result from the [FSA] if the [FSA] and DSM are not to form part of the next LTAP."

Texada Action Now

TAN suggests that an interim pro-forma LTAP be filed with the Commission for public comment in June 2010, documenting the progress BC Hydro has made towards its 2011 filing. TAN submits that such a step is appropriate given the expected three year time lapse between LTAP filings and the fact that the 2008 LTAP was rejected by the Commission (Exhibit C5-1).

In its Reply, among other submissions, BC Hydro questions the practical utility of such a filing, noting that it would of necessity be of a "perfunctory nature" given the lack of time to properly address the same matters it cites in its reasons for requesting the variance of Directive 32 in the first instance.

The Commission Panel agrees with the views of BC Hydro on the TAN submission. The Commission Panel considers that such a filing will serve no useful purpose and declines to grant TAN the relief it requests.

DIRECTIVE 45 VARIANCE REQUEST

BC Hydro requests that Directive 45 be varied "to confirm that Voltage Optimization ("VO") programs are 'demand side measures' as defined in section 1 of the [Utilities Commission Act] and therefore VO programs are Demand Side Management (DSM) initiatives."

Directive 45 reads that: “The Commission Panel finds that while VO programs might ‘technically’ meet the criteria for DSM, the classification of VO programs as DSM would unhelpfully ‘blur’ the distinction between transmission and distribution system efficiency enhancement initiatives that should be being taken by BC Hydro in the normal course, and its DSM programs. Accordingly the Commission Panel determines that VO programs are not DSM initiatives.”

In support of its request for variation of Directive 45 BC Hydro submits, that “The Commission erred in law with respect to Directive 45 because it acted without jurisdiction when it found that VO is a ‘demand-side measure’ as defined in section 1 of the UCA but decided VO is not a DSM initiative because it would ‘unhelpfully blur the distinction between transmission and distribution system efficiency enhancement initiatives ... and DSM programs” (emphasis added). Based on that alleged “finding of fact,” BC Hydro then submits that nothing in the UCA or in the authorities it cites enables the Commission to alter, vary, or otherwise condition such a finding, as to do so would be to exceed its jurisdiction, and that the error “has significant material implications” (Exhibit B-1, pp. 13-14).

The Commission Panel notes at the outset that in its Decision the Commission made no such finding of fact that “VO is a ‘demand side measure’ as defined in section 1 of the UCA” as is alleged by BC Hydro. The Commission Panel only found, based on the evidence and submissions before it, that “VO might ‘technically’ meet the criteria” (emphasis added).

That notwithstanding, the Commission Panel believes it to be of value to all parties, including the Commission, to re-canvas the matter, inclusive of the submissions in this proceeding, as to how best to classify VO programs as DSM initiatives if appropriate, given the particulars of the VO initiative.

Section 1 of the UCA defines DSM as:

“demand-side measure” means a rate, measure, action, or program undertaken

- (a) to conserve energy or to promote energy efficiency,
- (b) to reduce the energy demand a public utility must serve, or
- (c) to shift the use of energy to periods of lower demand

In their submissions in this proceeding, BCOAPO and CEC support BC Hydro’s request for variation of Directive 45 on the grounds alleged by BC Hydro. BCSEA agrees with BC Hydro that the Commission lacks the jurisdiction to exclude VO programs from DSM on the basis of the reason given in the Decision, since the reason is beyond the definition of the term in the UCA. BCSEA further submits that:

- it now accepts BC Hydro’s evidence that the VO programs in question cause devices behind the customer meter to function more efficiently *en gross*;

- the VO programs thereby reduce the energy demand BC Hydro must serve;
- the VO programs are undertaken for that purpose; and
- the VO programs in question thereby meet the definition of DSM.

With reference to the statutory definition of DSM, BCSEA also submits that the “energy demand a public utility must serve’ is load behind the customer meter” (Exhibit C1-1). In its Reply, BC Hydro agrees with and adopts BCSEA’s submissions.

ESVI supports BC Hydro’s request on the basis of the LTAP evidence that VO is a DSM, and submits that given this finding it is not necessary to address the jurisdictional issue relied on by BC Hydro. ESVI also points to the Northwest Energy Alliance Report, only a summary of which forms part of the record, as support for its evidentiary position, and submits that the Commission has misinterpreted the report, which ESVI says provides further evidence that the VO program is a DSM (Exhibit C5-1). BC Hydro agrees with ESVI insofar as its submissions in respect of the evidence are concerned, and that the jurisdictional issue is not relevant if the Commission varies Directive 45 as requested by BC Hydro.

The Commission drew its conclusions on the Northwest Energy Alliance Report based on the summary which was the only evidence on the report before it.

JIESC opposes BC Hydro’s request, referring to page 26 of JIESC’s Final Argument and to pages 163 and 165 of the Decision. Further, JIESC refers to the “commonly understood principle of statutory interpretation that legislation should not be interpreted so as to lead to absurd results.” In addition, JIESC submits that Section 8 of the Interpretation Act requires the Commission to construe the UCA as being remedial and give it “such fair, large and liberal construction and interpretation as best ensures the attainment of its objects”. In Reply, BC Hydro submits that it has dealt with the JIESC’s technical arguments in its Reply in the LTAP proceeding, and that the authorities cited by the JIESC are not necessarily aligned with JIESC’s submissions (Exhibit C7-1).

IPPBC submits that the evidentiary record is “[insufficient] to show that the VO programs will conserve energy”, and states that “[t]hey certainly don’t promote energy efficiency.” As well, it expresses the concern that “BC Hydro is taking an excessively broad view of the term ‘demand-side measure’ that is serving no useful purpose other than to artificially increase projected demand-side savings.” IPPBC submits that investments that form part of BC Hydro’s distribution or generation assets are more accurately described by the words in the UCA such as “the facilities the utility intends to construct or extend’ in (section 43(1.1) (d) [sc. section 44.1(2) (d)] or ‘capital expenditures’ in [section] 44.2.1, or ‘public utility plant or system’ in section 45(1)”.

IPPBC goes on to refer to section 43(1.1)(f) [sc. section 44.1(2)(f)] which states: “an explanation of why the demand for energy to be served by the facilities referred to in paragraph (d) and the purchases referred to in paragraph (e) are not planned to be replaced by demand-side measures”. IPPBC notes that “[t]here is a distinction between ‘demand-side measures’ and the ‘facilities that the public utility intends to construct or extend’”. In view of this choice, IPPBC submits that it is “up to the BCUC to decide what the investment in VO programs is, and in this respect it doesn’t necessarily have to be a demand-side measure” (Exhibit C6-1A).

BC Hydro replies that it has previously dealt with IPPBC’s submissions other than IPPBC’s “new argument,” which BC Hydro characterizes as “an assert[ion] that a program cannot be both a demand-side measure and ‘utility plant or system, or an extension to either [pursuant to] section 45(1) of the UCA” (Exhibit B-2, pp. 26-17). BC Hydro also points to certain erroneous references to sections of the UCA in IPPBC’s submissions, which corrections the Commission Panel appreciates, noting however, that the essence of IPPBC’s argument remains intact. BC Hydro submits that IPPBC’s references to the UCA in no way are relevant to what is or is not a DSM and that only the definition in section 1 is relevant.

Section 7.7.6 of the Decision dealt with VO and provides the basis on which Directive 45 was reached by the Commission. In reviewing that section, the Commission Panel notes that there was no consensus among the Parties as to whether or not, and on what basis, VO initiatives could or should be classified as DSM initiatives. The parties’ submissions in this proceeding have not changed that situation.

The Commission Panel believes the record demonstrates the Parties collective recognition that a strictly literal reading and application of the definition would lead to exactly the outcome the Commission recorded in Directive 45 - that there would be a “blurring” of the distinction between system efficiency enhancements and DSM initiatives. This stems from the fact that “the energy demand a public utility must serve” referred to in clause (b) of the definition of “demand-side measure” is not a defined term *per se* in the UCA insofar as to where that demand is measured i.e. is it generation capability inclusive of line losses and un-metered consumption, which seems to be the thrust of SD 10 with its references to “generating facilities in the province”, or is it the aggregate demand at the customer meter?

This matter was canvassed in the Oral Phase of Argument in the 2008 LTAP review. BC Hydro’s and some other Intervenor’s views that some limitation of the definition was in fact required were clear, as is recorded in part at page 163 of the Decision where the Commission Panel refers to Hydro’s acknowledgements that:

1. “DSM savings are at the customer meter and do not include savings attributable to transmission or distribution losses”; and
2. “whether it impacts the customer side of the meter is an appropriate test”.

In this proceeding, BC Hydro and the Intervenor in support of its position reaffirm the view set out above that the Commission is to “use as a test” or otherwise “read in” to criteria (b) of the definition of DSM the notion that a DSM is to reduce the demand a public utility must serve as measured after the customers’ meters. Without that limitation, it seems clear that the wording of the definition of “demand-side measure” would capture any and all initiatives that improved energy efficiency or reduced demand as seen from the generation perspective resulting from any operational improvement or capital investment – an outcome that would seem unreasonable.

The Commission Panel finds it inconsistent for BC Hydro and those Intervenor supporting it to acknowledge that there are interpretive limitations to the definition of “demand-side measure” which are not readily apparent and to then allege that the Commission erred in law, in finding, based on the evidence before it, that customer engagement was also an appropriate consideration in the classification of an initiative as a DSM in reaching its determination as reflected in Directive 45. As BC Hydro put it in its reply to ESVI in this proceeding “the Commission must address the jurisdictional issue raised by BC Hydro ... if the Commission falls back to its apparent 2008 LTAP reasoning thatsomehow the Commission is empowered to conjure its own test to decide ...”. The Commission Panel respectfully suggests that BC Hydro and those Intervenor supporting it “cannot have it both ways” and declines to deal any further with BC Hydro’s alleged jurisdictional issues at this time.

The Commission Panel believes that some of the difficulty in reaching a consensus on this matter stems from the fact that, while there is a specific VO initiative proposed by BC Hydro in the 2008 LTAP, the discussion and debate has in the main taken place at a conceptual level. That initiative is to be found at pages 140-141 of Appendix “K” to Exhibit B-1-1 and that Program Description is attached as Attachment 1 to these Reasons.

The Commission Panel notes the following from the Program Description:

- Target Market: “BC Hydro substations and, indirectly, all customers connected to retrofitted substations”;
- Program Description: “... if it is feasible to lower the system voltage at the substation by an average of 1.5 percent - below traditional levels, average energy savings of 1 percent of total substation throughput may occur. For this reason, BC Hydro is of the view that voltage optimization is a DSM program even though it only involves supply-side investments”;
- Customer Benefits: “Electricity bill savings. Reduced congestion in both the distribution and transmission networks may assist in delaying or deferring upgrades to these systems that would otherwise have been required”; and
- Technology: “VVO is a new method of operating the power delivery system that utilizes distribution automation and substation supervisory control and data acquisition (SCADA) technologies. ...” (emphasis added).

(Exhibit B-1-1, Appendix K, pp. 140-41)

The Commission Panel also notes that, pursuant to item 3) of Exhibit B-88 in the 2008 LTAP review, the expenditure for the Program was contained within the broad category of “Substations Sustaining Capital” in the F09/F10 RRA proceeding (in Appendix J to that Application), and that the “expenditures for VO alone were subsequently provided in the DSM Plan to reflect expenditures for the energy savings component of VVO” (emphasis added).

From the emphasized phrases in the two preceding paragraphs, it seems clear to the Commission Panel that the VVO program is directed towards systemic operational improvements in BC Hydro’s distribution substations, and that it may, (or may not) indirectly result in energy savings. The nature of the savings is generic, in that any improvement made by BC Hydro to its generation, transmission and distribution systems to improve effectiveness and reduce demand should, all else equal, result in such benefits to customers. Further, the allocation of cost and benefit of the “VO portion” of what appears to be a considerably larger expenditure on VVO technology is based on criteria that, to the Commission Panel’s knowledge have not been subject to review. The Commission Panel also has concerns with the prospect of portions of BC Hydro’s improvement initiatives being classified as DSM initiatives, and in that regard shares IPPBC’s concerns with respect to what IPPBC characterizes as BC Hydro’s excessively broad view of what constitutes DSM.

In consideration of all of the foregoing, the Commission Panel finds there to be little if any value in making a “generic” determination as to whether or not VO programs are DSM. The Commission Panel believes that such determinations can and should only be made in the course of a separately constituted review of specific initiatives. In the present case, the Commission Panel finds that issue of whether that portion of BC Hydro’s VVO initiative it identifies as VO meets the criteria of a DSM was not adequately canvassed by the parties in this proceeding, and reiterates its encouragement to BC Hydro to bring an MTP application forward in the normal course.

Accordingly Directive 45 is varied to read: “The Commission Panel finds that a determination as to whether or not a VO program should be classified as a DSM program can and should only be made on a case-specific basis. BC Hydro is encouraged to bring forward an MTP application for its proposed VVO/VO program so that it can be appropriately reviewed and a determination made.”

400MW CLARIFICATION

BC Hydro seeks a clarification of the Decision relating to BC Hydro’s treatment of the 400 MW market reliance after 2015. The issue arises as the Commission Panel made no explicit finding concerning BC Hydro’s treatment of the 400 MW market reliance for planning purposes.

In its Reply, BC Hydro notes that no Intervenor opposes BC Hydro's request for clarification, although the Columbia Power Corporation, while agreeing that the 400 MW market reliance must terminate before 2016, suggests that a "phased-in approach.... would be most appropriate and should be adopted" (Exhibit C4-10). BC Hydro submits that SD 10 does not limit the capacity resources that can be used prior to the 2016 deadline and that it would consider replacing the reliance with a domestic capacity source should such become cost-effective.

The Commission Panel agrees with BC Hydro that the language of SD 10 is absolute and that it cannot require BC Hydro to adopt a "phased-in approach" with respect to the 400MW reliance.

Accordingly, at page 44 of its Decision, Line 18, the words "and 400 MW of capacity" are to be added after "2,500 GWh/year", and a new Directive 47 is to be added by way of addendum to the Decision to provide that: "The Commission Panel confirms that the 400 MW market reliance cannot be relied on for planning purposes after 2015 as a result of section 3(d) of SD 10", with a reference to page "44".

1.2 Voltage Optimization Program

Target Market

BC Hydro substations and, indirectly, all customers connected to retrofitted substations.

Objective

The program's objective is to save energy among BC Hydro's distribution-level customers by optimizing voltage levels at BC Hydro substations.

Program Description

Voltage levels at most of BC Hydro substations are controlled by a relay with settings that are determined on the basis of power flow and system voltage drop at the peak time of year. For many substations, these settings are higher than necessary during the off-peak times of the year. On most substations, voltage levels are typically neither monitored nor adjusted automatically in response to loading conditions that vary on a daily and seasonal basis.

The principle underlying the program is that when the system voltage is lowered at the substation, downstream customers draw less power and consume less energy, resulting in energy savings. For example, if it is feasible to lower the system voltage at the substation by an average of 1.5 per cent below traditional voltage levels, average energy savings of 1 per cent of the total substation energy throughput may occur. For this reason, BC Hydro is of the view that voltage optimization is a DSM program even though it only involves supply-side investments.

The program will focus on optimizing the system voltage at BC Hydro's substations, lowering the feeder voltages without exceeding the lower limits of the normal operating criteria.²⁸ Voltage and Var Optimization (VVO) is a substation-level monitoring and control system that monitors substation feeder voltages in real-time and automatically optimizes feeder voltages in order to operate within the lower end of the normal operating range. VVO also switches on feeder capacitors at appropriate times on the most critical voltage-limited feeders in order to provide additional room for central voltage optimization.

The program will implement VVO at substations throughout BC Hydro's system over a twelve year period.

²⁸ CSA standard CAN3 C235-83 specifies that voltage levels should not drop below 110V AC at single phase service entrances during normal operation conditions.

APPENDIX K to BC Hydro's 2008 LTAI

Customer Benefits

Electricity bill savings.

Reduced congestion in both the distribution and transmission networks may assist in delaying or deferring upgrades to these systems that would otherwise have been required.

Technology

VVO is a new method of operating the power delivery system that utilizes distribution automation and substation supervisory control and data acquisition (**SCADA**) technologies. Together, these technologies allow the substation voltage to be monitored in real-time and automatically optimized to the lower end of normal operation criteria.

Timing

This is an ongoing program.

1.3 Lighting Program

Target Market

Primary – All BC Hydro residential customers.

Secondary – Major lighting retailers and manufacturers.

Objective

The objective of the Lighting Program is to motivate residential customers to make energy efficient choices with respect to their home and seasonal lighting and to transform the lighting market to include more energy efficient products. The program's evolution will follow new developments in energy efficient lighting technology, with the emphasis shifting from compact fluorescent lamps (**CFL**) to light emitting diode (**LED**) technology as that technology advances.

Specifically the program's deliverables are to:

- ▶ Produce immediate energy savings through the adoption of energy efficient lighting, by continuing the adoption of CFL technology with a focus on special application CFLs and fixtures;
- ▶ Continue to promote the adoption of LED technology in seasonal (Christmas) lighting;
- ▶ Accelerate the adoption of LED technology for other residential lighting applications; and